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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,312	12/05/2003	Tad Janicki	HATA001	2208
21397	7590	11/08/2004	EXAMINER	
GORDON-LENDVAY PATENT AGENCY P O BOX 101 WHITE PLAINS, NY 10605			KERNS, KEVIN P	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 11/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/730,312

Applicant(s)

JANICKI, TAD

Examiner

Kevin P. Kerns

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 1-3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to because it appears as though reference number "100" should be changed to "101" in each of Figures 4-6. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The

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replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: on page 3, 6th line, "the" should be deleted before "electrode". On page 3, 16th line, "and" should be changed to "an" before "alloy". On page 6, lines 19 and 26, it is believed that "100" should be changed to "101" after "electrode" and "electrode tip", respectively. On page 6, last line, "107" should be changed to "106" after "frame". On page 7, 1st line, "I" should be changed to "in" before "lack". Other minor spelling and grammatical errors exist throughout the specification. Corrections and/or clarifications are required for these and other errors that occur throughout the specification.

Claim Objections

4. Claims 1-3 are objected to because of the following informalities: in claim 1, 3rd line, "at least one pair of an electrode" should be revised to obtain distinct singular or plural usage. In claim 2, 3rd line, it is believed that "therefore" should be deleted. In claim 2, last line, "and" should be changed to "an" before "alloy". In claim 3, 1st line, ",", should be deleted after "wherein". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "sufficiently" in claim 1 is a relative term which renders the claim indefinite. The term "sufficiently" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

The term "tiny bit" in claim 4 is a relative term which renders the claim indefinite. The term "tiny bit" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Barstow et al. (US 3,393,288).

Barstow et al. disclose an electric welding apparatus for spot welding of miniature and micro-miniature electronic components that include soft or thin materials comprised of eutectic metals, such as foils, in which the spot welding apparatus includes an electrical current pulsing source (discharge capacitor) providing an electric pulse (column 4, lines 39-41) to a pair of electrodes (41,42) having terminal ends that are tapered tangentially to a domed terminus, such that the terminal ends of the pair of electrodes (41,42) contact and fuse micro-miniature electronic component lead 43 with the edge lead 44 of the circuit board 45, resulting in a reduced amount of deformation (Figure 7) between the two materials (52,53) to be welded (abstract; column 1, lines 27-71; column 2, lines 1-50; column 3, lines 70-75; column 4, lines 1-46; and Figures 4, 5, and 7).

9. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Camardella (US 4,211,913).

Camardella discloses an electric welding apparatus for spot welding of thin resistance wires onto supports or terminals that include soft or thin materials comprised of eutectic metals, in which the spot welding apparatus includes an electrical current pulsing source (discharge capacitor) providing several electric welding discharge pulses (column 3, lines 12-14) to a pair of electrodes (9,9A) having terminal ends that are tapered tangentially to an arcuate profile (domed terminus), such that the terminal ends

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of the pair of electrodes (9,9A) contact and fuse the thin resistance wires 5 onto the supports or terminals 8 (abstract; column 1, lines 7-34; column 2, lines 51-68; column 3, lines 1-36; column 4, lines 24-68; column 5, lines 1-68; column 6, lines 1-27; and Figures 5 and 6).

10. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Isawa (US 5,324,910).

Isawa discloses an electric welding apparatus for spot welding of soft or thin materials comprised of eutectic metals, such as aluminum foil and other foils to electrically conductive materials, in which the spot welding apparatus includes an electrical current source provided to a pair of electrodes (14,15) or (24,25) having terminal ends that are tapered tangentially to a domed terminus, such that the terminal ends of the pair of electrodes (14,15) or (24,25) contact and fuse the foil layer 12 to the conductive material 13 to be welded (abstract; column 1, lines 52-68; column 2, lines 1-20 and 45-68; column 3, lines 1-68; column 4, lines 1-31; and Figures 1 and 2).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Barstow et al. (US 3,393,288), Camardella (US 4,211,913), or Isawa (US 5,324,910).

Barstow et al., Camardella, and Isawa individually disclose the elements of claim 1 above. Neither Barstow et al., Camardella, nor Isawa specifically discloses the use of electrodes comprised of an alloy of copper tungsten.

However, one of ordinary skill in the art would have recognized that the spot welding of miniature components, thin wires, foils etc., in combination with the use of copper/chromium electrodes taught by Isawa (Isawa; column 3, lines 24-26), would have been obvious to use a copper/tungsten material for the electrode material, as chromium and tungsten are in the same elemental group and have physical properties that include good conductivity and wear resistance. Furthermore, welding electrodes are subject to high electrical currents and pulse discharges, such that higher melting point metals (tungsten is one of the highest melting point metals) are needed for the electrode materials. As a result, it would have been obvious to one of ordinary skill in the art to use copper tungsten alloys as spot welding electrodes, in order to improve conductivity, wear resistance, and durability of the electrodes.

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Barstow et al. (US 3,393,288), Camardella (US 4,211,913), or Isawa (US 5,324,910), in view of either Hascoe (US 3,946,190) or Samuels (US 4,709,122).

Barstow et al., Camardella, and Isawa individually disclose the elements of claim 1 above. Neither Barstow et al., Camardella, nor Isawa specifically discloses the

method of using the electric welder that includes the pressing step of using a pressure block against the materials to be welded.

However, Hascoe and Samuels individually disclose the manufacture of a hermetically sealed container via spot welding of eutectic materials, in which the spot welding apparatus includes a plurality of electrodes (17-20) engaged at corners adjacent a pressing plate 29 to be depressed by actuating cylinder 30, such that the step of pressing the plate against the materials to be welded is advantageous for providing a uniform pressure on all areas of the materials to be welded, thus resulting in a reliable spot weld (Hascoe; abstract; column 1, lines 16-18 and 47-54; column 2, lines 16-68; column 3, lines 1-42; and Figure 2; and Samuels; abstract; column 1, lines 15-24; column 2, lines 39-60; column 3, lines 21-68; column 4, lines 1-19; column 9, lines 3-48; and Figure 2).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify any one of the spot welding apparatuses of Barstow et al., Camardella, or Isawa, by adding the pressing step by using a pressure block against the materials to be welded, as taught individually by Hascoe and Samuels, in order to obtain a uniform pressure on all areas of the materials to be welded, thus resulting in a reliable spot weld (Hascoe; column 1, lines 47-54; and column 2, lines 34-44; and Samuels; column 9, lines 3-42).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Smith and Terunuma et al. references are also cited in PTO-892.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin P. Kerns *Kevin Kerns 11/4/04*
Examiner
Art Unit 1725

KPK
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November 4, 2004